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also in the anticipation that other important steps in mathematics may be made by the help of Sir William Hamilton's imaginaries. I hope before long to be able to furnish the Academy with some reply to the questions here suggested.

Rev. Samuel Haughton made some observations on the Rev. Dr. Graves' paper.

Rev. Humphrey Lloyd, D.D., read a further communication "on the magnetic influence of the Moon."

The President and Rev. Samuel Haughton made some remarks, eliciting explanations from Dr. Lloyd as to the analogy of the magnetic phenomena described by him, to corresponding phenomena connected with the tides.

In the absence of Edward J. Cooper, Esq., his Paper on "Ecliptic Catalogues" was read by the Secretary:—

"Having completed the catalogues of ecliptic stars observed here during six years, it occurred to me to employ a few holidays, which I gave myself after the publication of our third volume, in examining some of the general results deducible from them, and comparing these results with concurrent meteorological phenomena. My object was to ascertain the soundness of a preconceived opinion, that the records of the state of the weather are useless as a guide in estimating the most favourable periods of the year for astronomical observations. To the investigation I added a search for any striking facts that might appear during the course of the work, in which Mr. Graham has been the principal performer, in the capacity of an indefatigable observer.

"The mode of proceeding which we originally adopted was, as is stated in the Introduction to the first volume of 'Ecliptic Stars,' one which we considered the most likely to possess the two essential conditions of rapidity and sufficient accuracy. It would require some little labour and time to ascertain from the published volumes the effectual manner in which the former of these conditions has been carried out. This, however, is easily established from the nightly noted observations. On six occasions the nightly number of stars observed approached 500; on three occasions it exceeded 500, exclusively of one, when it approached 900; another 1200; and at last, on January 17th of the present year, no fewer than 1387 were secured. The two last, and one of the first cited, are not yet published.

"With reference to the second condition, which, *primâ facie*, might appear unfavourably affected by the success of the first, it will be seen, by reference to the Introduction already alluded to, that the probable error of an observation in right ascension of $0^{s}{\cdot}288$, and in declination of $4''{\cdot}27$, was the result deduced from 1345 known stars. But this statement does not fairly represent the accuracy of the observations; for, be it remembered, that it originates in a comparison of previously determined stars, as observed and used by us for the reduction of the places of those published in our volumes, and their catalogued places, and with the result is mixed up the errors of those catalogues. Were this not the case, our probable error in right ascension must necessarily have appeared considerably less than in declination: the right ascension being obtained from the *mean* of two observations; the declination from their *difference*. It is fair, then, to assume, that the second condition has been fulfilled.

"The Tables on pp. 196, 197, will show, as expected, that meteorological records would furnish no data from which a practical astronomer could select a time for his visit to this western station with any certainty of securing clear nights for observation. Were he to choose the month of May in consequence of its greatest freedom from rain, he would find it low in the order of productiveness; or November as the least variable, still the

TABLE I.

MONTH.	1848.				1849.				1850.				1851.			
	C.	K.	D.	Total.	C.	K.	D.	Total.	C.	K.	D.	Total.	C.	K.	D.	Total.
July, . . .	. .	. .	. .	. .	353	41	38	432	86	3	7	96	374	28	135	537
August, . .	949	49	67	1065	5	19	34	58	183	18	16	217	1205	168	169	1542
September, .	734	64	47	844	1151	92	168	1411	1076	98	201	1375	1137	165	223	1525
October, . .	1009	198	180	1387	864	101	95	1060	637	83	62	782	597	120	170	887
November, .	470	54	56	580	209	34	11	254	230	35	23	288	914	143	48	1105
December, .	1534	222	7	1763	260	31	30	321	1131	117	46	1294	912	132	97	1141
January, . .	. .	. .	. .	. .	959	164	20	1143	676	101	60	837	1520	199	118	1837
February, .	. .	. .	. .	. .	0	0	0	0	47	7	2	56	886	91	49	1026
March, . .	. .	. .	. .	. .	502	69	37	608	1340	214	39	1593	602	77	31	710
April, . . .	. .	. .	. .	. .	0	0	0	0	249	33	8	290	850	77	86	1013
May, . . .	. .	. .	. .	. .	0	0	0	0	172	26	9	207	404	18	25	447
June, . . .	. .	. .	. .	. .	48	3	4	55	0	0	0	0	132	8	5	145

TABLE II.

Months in the Order of absolute Productiveness.	Stars.	Average.
September, averaging . .	1215	789
April, ,, . .	1171	
March, ,, . .	1112	
December, ,, . .	1003	
January, ,, . .	898	
October, ,, . .	818	
November, ,, . .	699	
February, ,, . .	645	
May, ,, . .	614	
August, ,, . .	608	
July, ,, . .	544	
June, ,, . .	141	

TABLE III.

Months in the Order of least Rain.	Inches.	Gross difference.
May, ...	1·983	2 014
March, ...	2·089	1·747
September, ...	2·383	1·002
April, ...	2·519	1·802
February, ...	2·852	1·468
June, ...	3·231	2·530
December, ...	3.266	4·114
July, ...	3·385	0·914
November, ...	3 941	0 904
October, ...	4·253	1·041
August, ...	4·402	1·851
January, ...	4·573	2·206

TABLE I.—*continued.*

MONTH.	1852.				1853.				1854.				Total for six years.	Annual Average.
	C.	K.	D.	Total.	C.	K.	D.	Total.	C.	K.	D.	Total.		
July, . . .	720	65	91	876	85	32	6	123	855	224	120	1199	3263	544
August, . .	318	62	52	432	197	49	86	332	. .	. .	. .	. .	3646	608
September, .	766	120	123	1009	761	139	225	1125	. .	. .	. .	. .	7289	1215
October, . .	451	83	62	596	141	28	26	195	. .	. .	. .	. .	4907	818
November, .	605	96	54	755	926	142	142	1210	. .	. .	. .	. .	4192	699
December, .	819	111	64	994	397	65	45	507	. .	. .	. .	. .	6020	1003
January, . .	580	82	45	707	651	85	66	802	33	17	10	60	5386	898
February, .	985	189	44	1218	1081	221	137	1439	1078	188	66	1332	5071	845
March, . .	1370	194	82	1646	468	75	80	623	1180	221	92	1493	6673	1112
April, . . .	1853	232	208	2293	988	166	172	1326	1544	242	320	2106	7028	1171
May, . . .	254	20	22	296	1489	294	88	1871	727	118	60	905	3726	621
June, . . .	0	0	0	0	322	108	71	501	110	30	6	146	847	141
													58048	9675

TABLE IV.

Hours dark enough for Observations.	
December, ...	258
January, ...	249
November, ...	233
October, ...	207
February, ...	200
March, ...	181
September, ...	159
April, ...	129
August, ...	113
May, ...	75
July, ...	57
June, ...	29

TABLE V.

Months in the Order of Darkness.	Stars per Hour.	Average
December, ...	3·9	5·8 nearly
January, ...	3·6	
November, ...	3·0	
October, ...	3·9	
February, ...	4·2	
March, ...	6·1	
September, ...	7·6	
April, ...	9·1	
August, ...	5·4	
May, ...	8·3	
July, ...	9·5	
June, ...	4·9	

numbers of stars obtained is below the average of the year. Lastly, were he to select December as the month producing the greatest number of hours dark enough for his purpose, he would again be foiled, the number of stars obtained per hour of darkness in this month being considerably below the average of the year. It will be perceived that September has proved to be the most productive *absolutely*, although three other months stand higher in horary results. At this season there is little to contend with, excepting clouds. The nights are long enough for the strength of the observer, and there is no frost to coat the object-glass. The latter is a serious obstacle in the colder months, and especially in this Observatory, where the large equatorial is completely exposed; and the object-glass too heavy to be frequently removed with prudence.

"In my general examination of the zones, planets were sought for, but only two detected:—Neptune, in vol. i., page 196, in right ascension, 22^h 27^m 26^s; and Melpomene, in vol. iii., page 177, in right ascension, 8^h 6^m 34^s. The paucity of observations of planets found in the zones may be thus accounted for. The telescope is almost invariably used near the meridian, and, the time of a planet's passage being known, the zone-observing was frequently abandoned to obtain the most accurate place of the planet with the meridian circle. Facts indicative of an unknown planet were always noted in forming the catalogue, and many places have been subsequently examined with the meridian circle. Hitherto the only results have been notes of two or three missing stars, on which we cannot at this moment lay our hands. A comparison by Mr. Graham of a portion of his maps, in course of execution, with the heavens, gave the following stars as missing:—

Vol. i.,	page	73, . . .	4^h	18^m	24^s
,,	,,	107, . . .	20	18	9
,,	,,	182, . . .	20	3	42
,,	,,	,, . . .	20	7	19
Vol. ii.,	page	8, . . .	4	54	9
,,	,,	92, . . .	20	6	42

The President observed that the stars contemplated in Mr. Cooper's Paper were many of them below the tenth magnitude, and that, therefore, the conditions of clearness, &c., of atmosphere required for such observations would not be applicable to the mere ordinary work of observatories.

Rev. Charles Graves, D.D., read a Paper containing an account of certain notes in the Ogham character, occurring in the margin of an ancient manuscript of Priscian, in the Library of St. Gall.